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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,906	01/20/2005	Ludo Jean Maria Mathilde Van Schepdael	903-123 PCT/US	1676

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EXAMINER	
WALDBAUM, SAMUEL A	

ART UNIT	PAPER NUMBER
1792	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/521,906

Applicant(s)

VAN SCHEPDAEL, LUDO JEAN
MARIA MATHILDE

Examiner

Samuel A. Waldbaum

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/20/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Preliminary amendment

1. The applicant filed a preliminary amendment on the 371 filing date of January 20, 2005 canceling claims 1-16 and adding claims 17-32.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 17-26, 29-30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujikawa et al (U.S. 6,491,518, hereafter '518) in view of Ishii (U.S. 4,471,949, hereafter '949) and Van Den Berg et al (U.S. 6,491,882, hereafter '882).

4. Claims 17, 18, 22, 24 and 28: '518 teaches the batch processing of substrates in high pressure (col. 1, lines 20-50 and col. 13, lines 1-65), '518 teaches the use of a cylindrical pressure chamber with a aperture (col. 13, lines 1-67). '518 does not teach the use of a piping system through the lid and does not teach the necessary lid for the chamber and does not teach the restraining means. '949 is a high pressure chamber. '949 teaches a chamber with two apertures and two lids (fig. 1, col. 2 lines 45-69) where a piping system (fig. 1, part 5) pass through a lid (fig. 1, parts 3 and 4) which extends

along the axial direction into the chamber (fig. 1, shows that the lids extend in the cylindrical chamber, part 2) with the use of a sealing ring (fig. 1 parts 6 and 7) where the lids axial slide along the inner wall to full seal (col. 2, lines 45-69). All of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention, meaning that the pressure chamber taught by '949 in apparatus '518 to process the substrates under high pressure.

'518 and '949 do not teach a restrain means. '949 teaches that press mechanism can help seal the pressure chamber (col. 2, lines 45-69). '882 is a high pressure chamber. '882 teaches the use of a retaining means, the bounding frame (fig. 1, part 4 and the half circle piece at the top and bottom that fits in the arch) where the chamber is movable in and out of the restraining means (col. 3, lines 15-65) to reinforce and hold the pressure chamber together (col. Lines 15-65). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have taken the restraining means as taught by '882 in apparatus '518 in view of '949 to reinforce and hold the pressure chamber together.

'882 teaches that the chamber is slidable (col. 3 lines 15-65) not the restraining means. All of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention, meaning that the sliding

mechanism for the chamber as taught by '882 can be used on the restraining means allowing it to slide over the pressure chamber.

5. Claim 19: '882 teaches that a lid has a holding part (fig. 2, chamber is part 3, and the lid is part 5, where the holder is the part sticking out from the lid)

6. Claim 20: '882 shows that the bounding frame on piece (fig. 1) composed of straight elements on the side (fig. 1) and arch element at one end (fig. 1) and a flat element with an arch inner shape at the other end (fig. 1). It would have been an obvious matter of design choice to have made the flat element arch shaped to correspond to the inner arch shape that it currently has, since such a modification would have involved a mere change in the shape of a component. A change of shape is generally recognized as being within the ordinary level of skill in the art. *In re Dailey*, 357 F.2nd 669, 149 USPQ 1966.

'882 discloses the claim invention except for the bounding frame is one piece instead of multiple parts. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the bounding frame in multiple parts, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *In re Dulberg*, 289 F2d 522, 5223 129 USPQ 348, 349 (CCPA 1961).

7. Claim 21: '882 teaches two substantially cylindrical restraining pieces (fig. 1, the two half circle pieces right adjacent to the inner arch to the end pieces).

8. Claim 23: '518 teaches that the piping extends out from the chamber (fig. 15) and '949 teaches that the piping extends from the lid (fig. 1). It would have been

Art Unit: 1792

obvious to a person of ordinary skill in the art at the time the invention was made to have put a groove or slot in the bounding frame taught by '882 in apparatus '518 in view of '949 so that that the pressure exerted on the pipe from the restrain means to hold the pressure chamber together does not crush or damage the pipe.

9. Claims 25 and 26: '882 teaches that the vessel can be made out of a glass fiber embedded in a plastic (col. 2, lines 1-25).

10. Claim 29: '513 in view of '949 and '882 as seen in above rejected claim teaches the claim apparatus. The apparatus would operate under ordinary condition where the substrate is put in the chamber, the lid is placed on the chamber, the restraining means (bounding frame) is slide to surround the vessel, the processing fluid is added for a certain time and after the completion of the cycle the restraining means is moved away where the lid is then removed and the substrate are removed.

11. Claims 30 and 32: '513 teaches placing them in batch (col. 1, lines 20-50 and col. 13, lines 1-65) which means more than one substrate is placed in the pressure vessel.

12. Claims 27 and 31 rejected under 35 U.S.C. 103(a) as being unpatentable over Fujikawa et al (U.S. 6,491,518) in view of Ishii (U.S. 4,471,949) and Van Den Berg et al (U.S. 6,491,882) as applied to claims 17 and 29 above, and further in view of Propp et al (U.S. 6,652,654, hereafter '654) and Randolph et al (U.S. pgpub 2002/0132007, hereafter '007).

'518, '949 and '882 teach all the limitations of claims 17 and 29.

Art Unit: 1792

13. Claims 27 and 31: '518, '949 and '882 do not teach that a supercritical fluid is used to create the high pressure or what that fluids composition is. '654 is s substrate processing apparatus. '654 teaches that the substrate can be processed in a high pressure vessel with the use of a supercritical fluid (col. 1, lines 60-67 and col. 2, lines 1-15). '007 teaches that the supercritical fluid can be CO₂, N₂O, ethane and propane ([0090]-[0095]) for batch operations ([0095]). All of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention, meaning that the supercritical fluid as taught by '654 using the composition of '007 in apparatus '513 in view of '949 and 882 can produce a high pressure in the processing vessel for processing the substrate.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel A. Waldbaum whose telephone number is 571-270-1860. The examiner can normally be reached on M-TR 6:20-3::50, F 6:30-10:30 est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on 571-272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1792

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

saw 

/FRANKIE L. STINSON/
Primary Examiner
GROUP ART UNIT 1792